

Claims

1. Multiple resonance filter as multilayer component,

- containing at least three multilayer capacitors (K1, K2, K3, K4) adjacent to one

5 another, having at least two different capacitances (C1, C2, C3),

- wherein the two outer multilayer capacitors (K1, K4) have the same capacitance (C1).

2. Filter according to claim 1,

10 - in which the multilayer capacitors (K1, K2, K3, K4) are connected in parallel to one another.

3. Filter according to one of claims 1 or 2,

- which comprises a basic element (1) and which comprises a stack of dielectric
15 layers (4) placed on top of one another, having electrode layers (51, 52, 53, 54; 61, 62, 63, 64) between them.

4. Filter according to claim 3,

- in which external contacts (71, 72) of the electrode layers (51, 52, 53, 54; 61, 62,
20 63, 64) are placed on the front faces (81, 82) of the basic element (1).

5. Filter according to one of claims 3 to 4,

- in which electrode layers (51, 52, 53, 54; 61, 62, 63, 64) belonging to different capacitors (K1, K2, K3, K4) are connected with one another in the interior of the basic element (1).

5 6. Filter according to one of claims 3 to 5,

- in which the electrode layers (51, 52, 53, 54; 61, 62, 63, 64) progress in longitudinal direction of the basic element (1).

7. Filter according to one of claims 3 to 5,

10 - in which the electrode layers (51, 52, 53, 54; 61, 62, 63, 64) progress at right angles to the longitudinal direction of the basic element (1).

8. Filter according to one of claims 3 to 6,

15 - in which the external electrodes (711, 712, 713, 714; 721, 722, 723, 724) of the electrode layers (51, 52, 53, 54; 61, 62, 63, 64) are placed on side faces (101, 102) of the basic element (1).

9. Filter according to one of claims 3 to 7,

20 - in which the multilayer capacitors (K1, K2, K3, K4) outside the basic element (1) are connected in parallel to one another.

10. Filter according to one of claims 1 to 9,

- in which three multilayer capacitors (K1, K2, K3) are provided.

11. Filter according to one of claims 1 to 9,

- in which four multilayer capacitors (K1, K2, K3, K4) are provided, wherein the
5 two center multilayer capacitors (K2, K3) have the same capacitance (C2).

12. Filter according to one of claims 1 to 11,

- in which the multilayer capacitors (K1, K2, K3, K4), together with inductive
resistors of the electrode layers (51, 52, 53, 54; 61, 62, 63, 64) and the leads (110, 111),
10 form LC filters.

13. Filter according to one of claims 3 to 12,

- in which the dielectric layers (4) contain capacitor barium titanate-based
ceramics.
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14. Filter according to one of claims 3 to 13,

- in which the electrode layers contain a ceramic material having a varistor effect.

15. Filter according to one of claims 3 to 14,

- in which the basic element (1) has a surface area that is smaller than 6 mm^2 .
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16. Filter according to one of claims 3 to 15,

- in which the electrode layers (51, 52, 53, 54; 61, 62, 63, 64) belonging to the two outer multilayer capacitors (K1, K4) have identical surface areas.